5. (Twice amended) The polymerase chimera of claim 4, wherein histidine tags have been incorporated into the amino acid sequence of the chimera.

6. (Twice amended) A nucleic acid that encodes the polymerase chimera as claimed in claim 1.

12. (Twice amended) A process for the production of the polymerase chimera of claim 1, wherein the process comprises the following steps:

- (a) designing variants with the aid of amino acid sequence alignments, of three dimensional models or with the aid of experimentally determined three dimensional structures;

- (b) production of domain exchange variants by genetic engineering;

- (c) ligating DNA fragments that encode the variants into starting vectors;

- (d) expression of the chimeras in a host which has been transformed by vectors carrying the DNA fragments; and

- (e) purifying the expressed polymerase chimeras.

13. (Twice amended) A method for using the polymerase chimera of claim 1 comprising amplifying a nucleic acid by PCR with the polymerase chimera.

14. (Twice amended) A method for using the polymerase chimera of claim 1 comprising sequencing a DNA fragment wherein the polymerase chimera polymerizes a population of DNA molecules complementary to the DNA fragment, and wherein the polymerized DNA molecules comprise a dideoxynucleotide at their 3' termini.

15. (Twice amended) A method as in claim 13, wherein the nucleic acid is RNA.

16. (Twice amended) A kit comprising a polymerase chimera of claim 1.